

**ICF international / Laboratory Data Consultants**

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MEMORANDUM

TO: Lynda Deschambault, Remedial Project Manager
Site Cleanup Section 1, SFD-7-1

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00405090 Amendment 2

DATE: December 18, 2009

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC QB02
CERCLIS ID NO.:	CAD042245001
Case No.:	38940
SDG No.:	Y5129
Laboratory:	KAP Technologies, Inc. (KAP)
Analysis:	Trace Volatiles
Samples:	2 Ground Water Samples (see Case Summary)
Collection Date:	September 15, 2009
Reviewer:	Santiago Lee, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Ray Flores, CLP PO USEPA Region 6
Steve Remaley, CLP PO USEPA Region 9

CLP PO: ☒ Attention ☐ Action

SAMPLING ISSUES: ☒ Yes ☐ No

0905090-11621/38940/Y5129-TV

Data Validation Report - Tier 3

Case No.: 38940
SDG No.: Y5129
Site: Omega Chem OU2
Laboratory: KAP Technologies, Inc. (KAP)
Reviewer: Santiago Lee, ESAT/LDC
Date: December 18, 2009

I. CASE SUMMARY

Sample Information

Samples: Y5129 and Y5130
Concentration and Matrix: Low Concentration Water
Analysis: Trace Volatiles
SOW: SOM01.2
Collection Date: September 15, 2009
Sample Receipt Date: September 17, 2009
Extraction Date: Not Applicable
Analysis Date: September 24, 2009

Field QC

Field Blanks (FB): Not provided
Equipment Blanks (EB): Not provided
Trip Blanks (TB): Not provided
Background Samples (BG): Not provided
Field Duplicates (D1): Not provided

Laboratory QC

Method Blanks & Associated Samples:
VBLK16: Y5129, Y5130, Y5129MS, Y5129MSD
VBLK67: Storage blank VHBLK01

Tables

1A: Analytical Results with Qualifications
1B: Data Qualifier Definitions for Organic Data Review

CLP PO Action

None.

CLP PO Attention

1. The detected result for methylene chloride in storage blank VHBLK01 is qualified as nondetected and estimated (U,J) due to method blank contamination (see Comment B).
2. Results for some analytes are qualified as estimated (J) due to large percent relative standard deviations (%RSDs) in initial calibrations (see Comment C).

Sampling Issues

1. The sampler signature is missing on the traffic report and chain of custody record (TR/COC) (refer to page 4 in the data package).
2. No sample was designated for "laboratory QC" on the TR/COC. The laboratory performed the matrix spike/matrix spike duplicate (MS/MSD) analysis on sample Y5129.

Additional Comments

The DMC 2-hexanone-d5 had relative response factors (RRFs) below the 0.05 validation criterion in initial calibrations and continuing calibration verifications. Quantitation of the analytes associated with this DMC (4-methyl-2-pentanone and 2-hexanone) may have been affected by low RRFs.

In addition to laboratory artifacts (approximate retention times of 11.1, 12.0, and 16.1 minutes), tentatively identified compounds (TICs) were found in sample Y5130 (see attached Form 1J).

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services Volatile and Semivolatile Data Packages*;
- USEPA Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration, SOM01.1, May 2005;
- Modifications Updating SOM01.1 to SOM01.2, Amended April 11, 2007; and
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	<u>Parameter</u>	<u>Acceptable</u>	<u>Comment</u>
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	No	C
4.	Continuing Calibration Verification	Yes	
5.	Laboratory Blanks	No	B
6.	Field Blanks	N/A	
7.	Deuterated Monitoring Compounds	Yes	
8.	Matrix Spike/Matrix Spike Duplicate	Yes	
9.	Laboratory Control Sample/Duplicate	N/A	
10.	Internal Standards	Yes	

11.	Compound Identification	Yes	
12.	Compound Quantitation	Yes	A
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	N/A	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following results, denoted with an “L” qualifier, are estimated and flagged “J” in Table 1A.

- All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. The following result is qualified as nondetected and estimated due to method blank contamination and is flagged “U,J” in Table 1A.

- Methylene chloride in storage blank VHBLK01

Methylene chloride was found in method blanks VBLK16 and VBLK67 (see Table 1A for concentrations). The result for methylene chloride in storage blank VHBLK01 is considered nondetected and estimated (U,J) and the quantitation limit has been raised according to blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result and reported as nondetected. If the sample result is less than the CRQL, the result is reported as nondetected at the CRQL.

A laboratory method blank is laboratory reagent water or baked sand analyzed with all reagents, deuterated monitoring compounds, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

C. Results for the following analytes are qualified as estimated due to large %RSDs in initial calibrations and are flagged “J” in Table 1A.

- Bromomethane in all samples, all method blanks, and storage blank VHBLK01

- cis-1,3-Dichloropropene in method blank VBLK67 and storage blank VHBLK01

%RSDs of 31.0% and 35.3% were reported for bromomethane in 09/24/09 and 10/02/09 initial calibrations, respectively. An %RSD of 31.8% was reported for cis-1,3-dichloropropene in the 10/02/09 initial calibration. These values exceeded the $\leq 30.0\%$ validation criterion.

ANALYTICAL RESULTS

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Table 1A

Case No. : 38940

SDG No. : Y5129

Site : OMEGA CHEM OU2

Lab : KAP Technologies, Inc.

Reviewer : Santiago Lee, ESAT/LDC

Date : 12/18/09

QUALIFIED DATA
Concentration in ug/L

Analysis Type :

Trace Level Water Samples
for Trace Volatiles

Station Location : 67				68			Method Blank			Method Blank			Storage Blank			CRQL		
Sample ID : Y5129				Y5130			VBLK16			VBLK67			VHBLK01					
Collection Date : 9/15/2009				9/15/2009			1.0			1.0			1.0					
Dilution Factor : 1.0				1.0														
Trace Volatiles	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
1,2-Dichloropropane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
Bromodichloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
cis-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U	J	C	0.50U	J	C	0.50		
4-Methyl-2-pentanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0		
Toluene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
trans-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
1,1,2-Trichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
Tetrachloroethene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
2-Hexanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0		
Dibromochloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
1,2-Dibromoethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
Chlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
Ethylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
o-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
m,p-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
Styrene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
Bromoform	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
Isopropylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
1,1,2,2-Tetrachloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
1,3-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
1,4-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
1,2-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
1,2-Dibromo-3-chloropropane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50		
1,2,3-Trichlorobenzene	0.50U			0.50U			0.27L	J	A	0.50U			0.50U			0.50		

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL - Contract Required Quantitation Limit

N/A - Not Applicable

NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank,

TB - Trip Blank, BG - Background Sample

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," June 2008.

- U The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
- L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
- J The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
- NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
- R The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.